REMARKS

Status of Claims

Claims 1-12 are pending, of which claims 1, 9 and 10 are independent. Claims 1-9 and 11 have been withdrawn due to a restriction requirement.

Rejection under 35 U.S.C. §§ 102/103

Claims 10 and 12 were rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over KR 10-2002-0063681 (KR '681). These rejections are traversed for at least the following reasons.

The Examiner asserts that KR '681 discloses Li-P-O-Si-N as a solid electrolyte. Although KR '681 fails to expressly disclose the fractions a, b, c, d, e in the present claims, the Examiner asserts that KR '681 inherently discloses the claimed range of these fractions. Specifically, the Examiner asserts that KR '681 teaches proportioning the ratio of phosphorus (P) and silicon (Si) in the sputtering composite where the sum of the ratios of P to Si is one. The product, then sputtered in the presence of nitrogen will form a Li-P-O-Si-N film having stoichiometric ratio of each element falling within the claimed range. Applicants disagree.

Applicants respectfully submit that in the previously filed Response, Applicants did not argue the ratios of P and Si (i.e., values of b and c, respectively), but argued **the ratio of Li** (i.e., value of a) (see, page 7, lines 3-8 of the Response filed May 6, 2009). Accordingly, the above Examiner's response does not address the Applicants' arguments and has no merit. Applicants respectfully submit that since KR '618 utilizes $\mathbf{Li_3PO_4}$ powders and $\mathbf{Li_2SiO_3}$ powders as the sputtering target, the Li ratio "a" in the product of KR '681 would be **less that 3**, where b+c=1.

In contrast, claim 10 clearly recites a = 3.0 to 3.7. In the present application, since, for example, Li_3PO_4 and Li_4SiO_3 are utilized as sources, the Li ratio "a" can be 3 or more (i.e., 3.0 – 3.7).

As such, it is clear that the alleged inherent characteristic does not necessarily flow from the teachings of KR '681 since KR'681 utilizes a different target composite. Accordingly, the Examiner's reliance on inherent disclosure has no basis. Thus, claim 10 is patentable over the cited reference.

The Examiner further asserts in the Response to Argument section that the criticality of range "c" is not supported by any clear evidence. Applicants, however, submit that in the Response filed May 6, 2009, Applicants argued criticality of the range of "a" with respect to claim 10 (see, page 7, lines 6-8 of the Response filed May 6, 2009). Accordingly, the above Examiner's response does not address the Applicants' arguments and has no merit. Applicants respectfully submit that by setting the Li ratio "a" 3.0-3.7, the decreasing in ion conductivity is more effectively prevented than in the case of Li ratio "a" less than 3 (see, Examples 14-17 in Table 3 of the specification). Compared with Examples 11-13, whose Li ratio "a" is less than 3, Examples 14-17, whose Li ratio "a" is 3.0 – 3.7, have higher ion conductivities after 2 weeks, which clearly exhibits significant unexpected results obtained by the present subject matter. As such, since the claimed range of "a" can exhibit the unexpected results as clearly disclosed in Table 3, claim 10 is not obvious over the cited reference.

Furthermore, Applicants respectfully submit that the amount of N (e=0.01-0.5) is not recognized by KR '681 as a result effective variable. Applicants respectfully remind the Examiner that a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*,

559 F.2d 618, 195 USPQ 6 (CCPA 1977) (see, M.P.E.P. § 2144.05). It is clear that KR '681 fails to recognize or suggest that the amount of nitrogen is a result effective variable. Applicants submit that mere presence of nitrogen in composition does not necessarily mean that KR '681 recognizes that the amount of nitrogen affects the properties of the battery utilizing the electrolyte. As such, since the Examiner fails to point out that the amount of nitrogen is a result effective variable, the claimed range of 0.01-0.5 is not obvious over KR '681.

As such, it is clear that KR '681 neither anticipates claim 10 nor renders claim 10 obvious. Accordingly, claim 10 is patentable over KR '681. Since claim 12 depends upon claim 10, this claim is also patentable over KR '681 for at least the same reasons as claim 10.

CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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